



71-year-old man was evaluated for severe anemia (hemoglobin, 7.1; MCV 106), extensive ecchymosis of the lower limbs (Panel A), gingivitis, and hemorrhages of the oral cavity (Panel B, arrows). There was no history of recent trauma. He lived alone and had poor nutritional intake, a 150 pack-year smoking history, and drank two glasses of red wine per day. What is the likely diagnosis?

## Medical Mystery: Extensive Ecchymosis — The Answer

**TO THE EDITOR:** The Medical Mystery in the December 1 issue<sup>1</sup> involved a 71-year-old man with lower-extremity ecchymosis (Fig. 1) and gingivitis (Fig. 2, arrows). He was a retired Army man living alone with a modest income. He had poor nutritional intake, had a history of 150 pack-years of smoking cigarettes, and consumed two glasses of red wine each day.

Scurvy was suspected and confirmed by a low level of ascorbic acid (3.6  $\mu\text{mol}$  per liter; normal range, 30 to 40). Other nutritional deficiencies that were identified included those of folic acid (1.37 ng per milliliter [3.1 nmol per liter]; normal range, 3 to 17 ng per milliliter [6.8 to 38.5 nmol per liter]); calcium (1.96 mmol per liter; normal range, 2.22 to 2.61); and 25-hydroxyvitamin D (7 mmol per liter; normal range, 27 to 175). Ascorbic acid was given orally at a dose of 500 mg per day. Eight days later, the patient was able to walk alone, the ecchymosis gradually disappeared, and the congestive periodontitis was notably improved.

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1. Mulleman D, Goupille P. A medical mystery — extensive ecchymosis. *N Engl J Med* 2005;353:2384.

*Editor's note:* We received 2001 responses to this Medical Mystery, including 58 percent from physicians in practice, 23 percent from physicians in training, and 11 percent from medical students. Responses were received from 81 countries. Of those, 69 percent correctly identified this case as due to a deficiency of vitamin C, or scurvy. Other proposed diagnoses were leukemia (especially

monocytic variants), suggested by 14 percent of respondents; a variety of other nutritional deficiencies, by 8 percent; and many other conditions (such as autoimmune diseases, an overdose of medication, amyloid, and sepsis), by the remaining 9 percent.



Figure 1. Ecchymosis on the Lower Extremities.



Figure 2. Severe Gingivitis.